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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/494,817	01/31/2000	Manraj Singh Johl	10992461	3999

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EXAMINER

TANG, KENNETH

ART UNIT	PAPER NUMBER
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2127

DATE MAILED: 09/08/2004

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 09/494,817	Applicant(s) JOHL ET AL.	
	Examiner Kenneth Tang	Art Unit 2127	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE ____ MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 07 May 2004.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-6 and 8-18 is/are rejected.
- 7) ☒ Claim(s) 7, 19 and 20 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on ____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. ____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|--|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. ____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date ____ | 6) <input type="checkbox"/> Other: ____ |

DETAILED ACTION

1. This final action is in response to the Amendment in 5/7/04. Applicant's arguments have been fully considered but were not deemed to be persuasive.
2. Claims 1-20 are presented for examination.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

3. **Claims 1-6 and 8-18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Nogales et al. (hereinafter Nogales) (US 5,809,328).**

4. As to claim 1, Nogales teaches a method for implementing a hardware controller that concurrently executes a number of tasks by carrying out operations on behalf of the tasks, the method comprising:

- determining a format for a context, comprising stored information related to a task, that represents the task (*col. 6, lines 29-33*);
- determining possible states, and transitions between states, that a context representing a task currently executed by the hardware controller can occupy at each point in the execution of the task, transitions representing operations performed on behalf of a task by the hardware controller (*col. 6, line 34*);

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- associating each manager with a data structure for storing contexts occupying states contained by the manager (*col. 5, lines 7-13*);
- defining a data-structure-manipulator manager that implements the data structures and that transfers contexts from one data structure to another (*col. 6, lines 42-57*);
- defining a command interface to the data-structure-manipulator manager for each manager (*col. 6, lines 42-57*); and
- implementing the managers and data-structure-manipulator manager, according to the determined states and transitions, so that, when a first manager carries out an operation that results in transition of a context to a state contained in a second manager, the first manager generates a command to the data-structure-manipulator manager to transfer the context from the data structure associated with the first manager to the data structure associated with the second manager (*col. 6, lines 21-57*).

5. Nogales fails to explicitly teach having the number of managers containing related/common states. However, it is well known and obvious to one of ordinary skill in the art that related states be grouped together with the same manager because it makes it simplifies the work for the manager. For example, the manager can perform related/common operations easier.

6. As to claim 2, Nogales teaches wherein tasks are provided to the hardware controller via a signal interface, wherein the hardware controller generates output signals and output data as a result of execution of a task, and wherein operations carried out by

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managers can be invoked via a signal interface provided for each manager (*col. 4, lines 30-45*).

7. As to claim 3, Nogales teaches wherein the data-structure-manipulator manager comprises a manipulator logic circuit for each manager, a manipulator logic circuit for a manager together with the command interface defined for the manager together composing a manipulator within the data-structure-manipulator manager corresponding to the manager (*col. 6, lines 33-36*).

8. As to claims 4 and 5, they are rejected for the same reasons as stated in the rejection of claim 2. In addition, it is well known and obvious that a clock is used to regulate the timing of the signals because the processor requires this.

9. As to claim 6, it is rejected for the same reasons as stated in the rejection of claim 1.

10. As to claim 8, it is rejected for the same reasons as stated in the rejection of claim 1.

11. As to claim 9, it is rejected for the same reasons as stated in the rejections of claims 1, 4, and 5.

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12. As to claim 10, it is well known in the art to use the well known data structures in software programming.

13. As to claim 11, it is rejected for the same reasons as stated in the rejection of claim 2.

14. As to claim 12, it is rejected for the same reasons as stated in the rejection of claim 1.

15. As to claim 13, Nogales teaches a subcomponent controller within a communications controller comprising:

- data storage elements that together compose a number of contexts for storing information related to a sequences of data to be exchanged through a communications medium connected to the communications controller (*col. 6, lines 47-57*);
- logical managers that are each associated with a data structure and that each carries out operations on behalf of contexts stored within the associated data structure (*col. 6, lines 29-34*); and
- a data-structure manipulator that implements a number of data structures for storing contexts and that transfers contexts between data structures in response to receiving context transfer commands from the logical managers (*col. 6, lines 42-57*).

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16. As to claims 14 and 15, it is rejected for the same reasons as stated in the rejections of claims 4-5.

17. As to claim 16, it is rejected for the same reasons as stated in the rejection of claim 1. In addition, Nogales teaches that the controller is a fiber channel controller (*see Abstract*).

18. As to claim 17, it is rejected for the same reasons as stated in the rejection of claims 1 and 16.

19. As to claim 18, it is rejected for the same reasons as stated in the rejection of claim 10.

Allowable Subject Matter

20. Claims 7 and 19-20 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Response to Arguments

21. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies

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(i.e., “Nogales likely uses one or more finite state machines in the GLM to accomplish the conversion from one data structure to the next” and “data stored in the buffer memory is transformed from one data structure to another when outbound data is sent to the GLM or received from the GLM”, page 16) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

22. *Applicant argues (on page 16) that Nogales does not show any cognition, let alone teach a particular manner in which parallel to serial conversions of data take place.*

In response, the Examiner respectfully disagrees. In the Abstract of Nogales teaches converting data structures from a parallel format to a serial format.

23. *Applicant argues (on pages 17, 20, and 22) that Nogales does not teach the concept of contexts.*

In response, the Examiner respectfully disagrees. A context is merely a task, or a thread, or an instruction (necessary) for execution. Nogales teaches having computer instructions (or context) for executing the converting (*col. 2, lines 17-23*), for example. These context or instructions are stored in memory (data structures) (*col. 3, line 1*).

24. In response to applicant's argument (on page 18) that the examiner's conclusion of obviousness is based upon improper hindsight reasoning, it must be recognized that any judgment on obviousness is in a sense necessarily a reconstruction based upon hindsight

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reasoning. But so long as it takes into account only knowledge which was within the level of ordinary skill at the time the claimed invention was made, and does not include knowledge gleaned only from the applicant's disclosure, such a reconstruction is proper. See *In re McLaughlin*, 443 F.2d 1392, 170 USPQ 209 (CCPA 1971).

Conclusion

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Kenneth Tang whose telephone number is (571) 272-3772. The examiner can normally be reached on 8:30AM - 6:00PM, Every other Friday off.

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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Meng-Ai An can be reached on (571) 272-3756. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Kt
8/26/04


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